

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 2003P13391WO	FOR FURTHER ACTION	See item 4 below
International application No. PCT/EP2004/053219	International filing date (<i>day/month/year</i>) 02 December 2004 (02.12.2004)	Priority date (<i>day/month/year</i>) 28 January 2004 (28.01.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant SIEMENS VDO AUTOMOTIVE SPA		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 31 July 2006 (31.07.2006) Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Ellen Moyse</div> e-mail: pt05@wipo.int
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 20 FEB 2005

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To:

see form PCT/ISA220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/053219

International filing date (day/month/year)
02.12.2004

Priority date (day/month/year)
28.01.2004

International Patent Classification (IPC) or both national classification and IPC
F02M53/04, F02M61/04

Applicant
SIEMENS VDO AUTOMOTIVE SPA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA220.

3. For further details, see notes to Form PCT/ISA220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/053219

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/053219

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-10
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

1 The following documents are referred to in this communication:

- D1 : US 2002/179742 A1 (HOHL GUENTHER ET AL) 5 December 2002 (2002-12-05)
- D2 : US 4 270 257 A (KIMATA KEI ET AL) 2 June 1981 (1981-06-02)
- D3 : WO 03/078826 A (BOSCH GMBH ROBERT) 25 September 2003 (2003-09-25)
- D4 : US 5 833 142 A (CALEY DAVID JAMES) 10 November 1998 (1998-11-10)
- D5 : DE 859 395 C (AUDI NSU AUTO UNION AG) 15 December 1952 (1952-12-15)
- D6 : US 5 551 638 A (CALEY DAVID J) 3 September 1996 (1996-09-03)
- D7 : DE 502 601 C (SUPER DIESEL TRACTOR CORP) 16 July 1930 (1930-07-16)
- D8 : US 2003/173428 A1 (BUEHLER CHRISTOPH) 18 September 2003 (2003-09-18)
- D9 : US 2003/057298 A1 (BOECKING FRIEDRICH) 27 March 2003 (2003-03-27)
- D10 : US 4 007 880 A (HANS WALDEMAR ET AL) 15 February 1977 (1977-02-15)
- D11 : US 4 651 931 A (HANS WALDEMAR ET AL) 24 March 1987 (1987-03-24)
- D12 : US 4 890 794 A (HANS WALDEMAR ET AL) 2 January 1990 (1990-01-02)
- D13 : US 4 907 745 A (MESSINGSCHLAGER ANTON) 13 March 1990 (1990-03-13)
- D14 : WO 03/002867 A (BOSCH GMBH ROBERT ;DANTES GUENTER (DE); NOWAK DETLEF (DE)) 9 January 2003 (2003-01-09)
- D15 : US 5 090 625 A (DAVIS ROBERT M) 25 February 1992 (1992-02-25)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses a fuel injector with all the features of claim 1 including an inwardly opening needle (figure 1, feature 5), a set and a sealing part (figure 1, features 8 and 9) and with the seat part comprising a cavity radially inwards and in

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2004/053219

proximity to the sealing area (figure 1, feature 10).

- 2.1 Documents D2 to D15 also show all the features in claim 1, as can be seen in the relevant passages cited in the search report.
- 3 Dependent claims 2-10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Article 33(2) and (3) PCT).